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ABSTRACT

Learning style theorists have advanced several distinct definitions of learning style and have proposed diagnostic procedures and instructional practices based on these definitions. Practitioners could benefit by being able to draw on the full range of these conceptions, but the conditions of dissemination discourage theorists from drawing attention to more than their own specific approaches. This document reviews 17 conceptions of learning style. Each conception has been examined in terms of the definition put forward, the number of learning style elements encompassed, the categories into which the elements are distributed, the individuals involved in applying the concept, and the instruments used in the course of this application. This analysis led to the identification of three continua as critical for fixing the essential differences among the conceptions: the first specified the grade levels served, the second the number of learning characteristics encompassed, and the third the extent to which learning style strengths are taught exclusively or are used to develop new strengths. By developing inservice programs that build upon a systhesis of these conceptions rather than on one alone, administrators will enable teachers to choose more wisely among the concepts and approaches available. (PGD)

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ANALYZING DIVERSE LEARNING STYLE CONCEPTIONS AND APPROACHES: A SYNTHESIS OF LEARNING STYLE INFORMED EDUCATION

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Because of the increasing amount of material published on learning styles and learning style measurement, many practitioners find themselves both excited and confused about learning style. Much of the confusion can be attributed to the different ways learning style theorists define, measure, and diagnose learning style. Since learning style is a relatively new educational concept, this diversity may be healthy both from a conceptual and a practical standpoint. On the one hand, it allows for a richness of competing perspectives which should yield a wide range of researchable questions. On the other hand, it provides for the development of numerous approaches which should enable teachers and administrators to select from a variety of diagnostic/prescriptive devices. Ultimately, this diversity should be reflected in in-service activities which will allow teachers to explore this wide range of learning style concepts and approaches.

Interestingly, however, this scenario has not emerged in most school districts. Where learning style has been a focus of teacher workshops, these have most often been designed around the presentation of a single model generally in the absence of any contextual cues to show where that model fits into the entire learning style landscape.

This may be attributable to several factors. Typically, learning style theorists have been pioneers who have had to struggle to gain pedagogical acceptance for their conception. In so doing, these construct creators have become very strong advocates for <u>their</u> conception. In order to receive acceptance in the world of educators, ideas must be tested in as many schools as possible. This involves widespread administrative support, and this is where the logic of strong advocacy for a single conception of learning style enters the

research and development picture in a very practical way. The result of all this conceptual and staff development competition is, first, a conceptually wide, divergent literature and second, a literature wherein the leading theorists typically advocate an approach to staff development which revolves around a single conception and concomitant methodology.[1]

This dominant reality, however, ignores a number of important phenomena. While this one definition approach to conceptualizing and providing inservice training in learning style informed education (hereafter, LSIE) allows for considerable depth, it fails to account for the range of teacher and student needs in an average classroom, the diverse literature on learning style, and the philosophic problems teachers may have with any one approach. In addition, it may leave teachers with the impression that whatever approach is presented is the way to define and measure learning style. This factor could discourage teachers from examining data from multiple perspectives in their attempts to find out why their students are, or are not, learning. This would be most unfortunate because oftentimes the most creative solutions to difficult learning problems stem from the eclectic adaptive efforts of teachers and administrators who draw on multiple resources.

With this type of problem solving in mind, the major purpose of this study is to provide teachers and administrators with a framework which will allow for an eclectic, adaptive, synthesis approach to LSIE at the classroom, school, and school district levels of operation. The explanation of this framework will include the following areas: the diversity of learning style definitions currently available in the

literature; the methodology employed in the analysis of competing conceptions; a visual representation of the analysis; and the application of the framework to specific learning style conceptions/approaches.

DIVERSITY OF DEFINITIONS

The diversity of definitions, conceptual frameworks, measurement devices, etc., have been well documented in the literature. One essay, in particular, *Learning Style Researchers Define Differences Differently,"* by Rita Dunn and Thomas DeBello, et al.,[2] clearly established that (a) there was great variety in the definitions of learning style utilized by learning style theorists, (b) there was some conceptual overlap, or common elements, in the definitions analyzed in their study,[3] and (c) the conceptual commonalities were matched by significant conceptual differences. In addition, Dunn and DeBello closed their essay on a very solid and hopeful note when they strongly implied that further analysis of the competing definitions and approaches discussed in their essay would be a worthwhile endeavor. In their closing paragraph, they wrote:

> *The studies of these writers - not matter how similar or different will contribute substantially toward understanding how students learn. In the future when others translate current research and add what will emerge over the next decade the many different parts will form newer, better ways of helping students achieve more easily through, rather than in spite of, their many individual differences.*[4]

Our own research reinforces their hope. Indeed, analysis of selected learning style "conceptions" has made it clear that beyond the positive results predicted by Dunn and DeBello, the analysis of a wide range of competing learning style conceptions will produce other desirable results as well.

METHODOLOGY

To begin with, in theorizing and writing about learning style we have found it useful to make a distinction between a learning style "conception" and a learning style "approach." A theorist's "conception" of learning style consists of the theorist's definition of learning style, but also includes the theorist's larger, and emerging, perspective on learning style. The theorist's "approach" to learning style, on the other hand, refers to all of the diagnostic procedures, and instructional prescriptions and materials with which the theorist attempts to relate the conception to instructional practice.

This distinction was helpful as we selected the conceptions and approaches which would be the focus of our analysis. The selection process was influenced by three concerns. First, we sought conceptions which had clearly articulated, fairly well developed approaches. Second, we wanted to share a set of conceptions which would indicate the wide range of definitions in the field, and finally, we wanted to illustrate the natural linkage between the conception and the approach, i.e. how the approach evolved logically from the conception.

With these concerns in mind, we chose to analyze the learning style conceptions/approaches created by: Dunn, Dunn, and Price;[5]

Renzulli and Smith;[6] Ramirez and Castaneda;[7] David Hunt;[8] Barbe and Swassing;[9] The Murdock Teacher Center;[10] Marie Carbo;[11] Janet Perrin;[12] Fuhrmann/Jacobs;[13] Grasha/Reichmann;[14] Bernice McCarthy;[15] David Kolb;[16] and Anthony Gregorc.[17] It is worth noting that there are valuable conceptions, such as David W. Keefe's (actually a model of learning styles), and intriguing conception/approaches such as those articulated by Ronald R. Schmeck and Joseph Hill, etc. which were not included in the analysis due to space limitations and the three concerns noted above. The questions which guided our analyses were:

1. In articulating their conceptions, did the theorists delineate a clear definition of learning style, and if so, what is the definition?
2. Does the theorist's conception encompass many or few learning style elements or characteristics?
3. Which conception encompassed the fewest learning style elements and which conception the most?
4. Do the elements encompassed by a particular conception primarily fall into one category, i.e. perceptual, or several different categories, i.e. cognitive, affective, physiological, etc.?
5. For each particular approach, how, and by whom, is the learning style data analyzed, disseminated, and utilized?[18]

In addition, where approaches incorporated or revolved around the use of instruments, the instruments were examined in terms of length, item clarity, face validity, component logic, formality or informality of

design, response format appropriateness, reliability and validity data, cost, and the rigor of overall instrument construction.

FINDINGS

To begin with, the analysis of selected conceptions and approaches has revealed some unexpected patterns between the conceptions and clarified the logical relationships which exist between several specific conceptions and their corresponding approaches. In addition, as implied earlier, these analyses, and our own experimentation, revealed that the variety of conceptions and approaches available made possible the idea of a synthesis approach to LSIE. We also discovered that the examination of the various conceptions and approaches was clarified when the conceptions were placed in a generally accurate manner, on three continua: the grade level continuum; the magnitude continuum; and the expansionism continuum.[19] The three continua and the logical relationship among them are presented and discussed below:

THE GRADE LEVEL CONTINUUM

K	3rd	6th	9th	12th	16th	o	o
The Ramirez Early Learning Behavior Checklists							
The Barbe Swassing Modality Index							
	The Bernice McCarthy 4-Mat System			David Kolb's Learning Style Inventory			
The David Hunt *Conceptual Level* Approach							
	The Carbo Reading Style Inventory			The Gregorc Style Delineator			
	The Murdock Teacher Center LSI			The Grasha/Reichmann Student Learning Styles Questionnaire			
	The Renzulli/Smith LSI			The Fuhrmann Jacobs Learning Interaction Inventory			
The Perrin Primary Version LSI		The Dunn/Price LSI		The Dunn/Price PEPS Inventory			
K	3rd	6th	9th	12th	16th	o	o

The placement of the approach above or below the continuum indicates at which grade level groups the approach is aimed at, or most suitable for. In a similar manner, the placement on the magnitude continuum indicates whether the conception encompasses one, or a few, or many learning style characteristics.

THE MAGNITUDE CONTINUUM

Number of Learning Style Characteristics							
1	3	6	9	12	15	18	21
David Hunt	Barbe/ Swassing	Grasha Reichman	Renzulli Smith				Perrin Dunn/Price
	Fuhrmann Jacobs	David Kolb	Murdock Teacher Center				
		Anthony Gregorc					
		Bernice McCarthy					
		Manual Ramirez III					

The third continuum is the expansionism continuum, and it runs from low to high expansionism. That is, some of the approaches tend to want to identify learning style preferences or strengths and then teach to those strengths exclusively in a highly personalized learning environment. Contrastingly, there are approaches which are oriented towards utilizing strengths to create new strengths, and then there are approaches which are not *explicitly* one or the other. An appraisal of several approaches is summarized on the following continuum.

THE EXPANSIONISM CONTINUUM

Low	Moderate	High
Janet Perrin Dunn/Price	Renzulli/Smith Barbe/Swassing	Bernice McCarthy David Hunt Manual Ramirez

The analysis of the above continua, in connection with other knowledge, can illuminate the logical relationship between specific conceptions and approaches. For example, analysis of the grade level continuum and the magnitude continuum produces some insight into the relationship between location on these continua and the methodology utilized to collect learning style data by a particular theorist. For instance, although David Hunt is quite aware that learning style conceptions could encompass several or more characteristics of the learner,[20] he has chosen to (a) define learning style in terms of one characteristic, *conceptual level*,[21] and (b) develop a diagnostic procedure and approach which strongly suggests that K-12 teachers who have understanding of *conceptual level*, as well as some insight into their own teaching and learning style, would make competent learning style diagnosticians.[22] In terms of his own conception, Hunt's reliance on, and encouragement of, teacher observation as the key strategy for data collection and analysis, is feasible and practical bucause he is concerned with one characteristic solely. If teachers can be persuaded that the one learning style characteristic in question is educationally significant, then they can probably be persuaded that they can be the primary source of diagnostic data. Busy teachers will be able to find time to observe and collect data on one characteristic; if Hunt's conception embraced more characteristics, he might modify his approach, i.e. provide a checklist.

Towards the other end of the magnitude continuum is the Dunn/Price conception, and it should be noted that the magnitude of the Dunn/Price conception almost predicts the methodology. The Dunn/Price conception needs a learning style inventory data collection

strategy for at least two reasons. First, teachers would probably refuse to observe for so many learning style characteristics (N=23),[23] even if a checklist were provided. But, more fundamentally, it is almost impossible for teachers, by the powers of their own observation, to collect the kind of data which is pertinent to the Dunn/Price conception. For instance, among other characteristics, the Dunn/Price conception of learning style includes a child's preference for informal or formal learning environments, food in the learning environment, more or less light or warmth in the learning environment, auditory, visual, and kinesthetic stimuli in the learning environment, and so on. Clearly, it would be difficult for teachers to observe these kind of preferences, and secondly, the systematic collection of data on twenty-three learning style characteristics would be too time consuming for teachers. Again, given the magnitude of the conception, the diagnostic aspect of the Dunn/Price approach is quite sensible and almost inevitable.

Another approach whose *logic* is revealed by analysis of the continua, as well as other pertinent material, is the one articulated by Manual Ramirez III. Given the fact that the Ramirez approach, at this point in time, is aimed *primarily* at K-3 students, and given the complexity of the conception--the Ramirez conception/approach almost equates learning style with cognitive style flexibility, and seeks to encourage/foster cognitive style flexibility by paying attention to students': relationships with peers; instructional relationship to teacher; thinking styles; and personal relationship with teachers--it is almost inevitable that Ramirez would opt for teacher observation as a source of learning style data, as opposed to student self-report via

questionnaire or learning style inventory. Similarly, given the number of items (N=17) that teachers will observe, and the number of times during the year that they will observe (N=4), the use of a checklist (*THE EARLY LEARNING BEHAVIORS CHECKLIST*)[24] to structure and guide the observation of very busy primary grade teachers is most sensible.

CONCLUSIONS

This explication of learning style conceptions and approaches has been exploratory rather than exhaustive, provided structure rather than stricture, and offered descriptions rather than prescriptions. No attempt was made to differentiate between cognitive style and learning style although some theorists see one as a subset of the other, while other theorists see them as mutually exclusive. The various approaches/conceptions were neither rated nor evaluated qualitatively. As noted earlier, some theorists' work was left off the continua for reasons of space and conceptual overlap. Finally, the continua themselves are not meant to be viewed as exhausting the range of possibilities. Other continua describing such factors as type of response categories (e.g., forced choice vs. open-ended) or data-gathering procedures (e.g., teacher observation vs. checklist) could be created.

The purpose of this essay has been to show that strength can arise from diversity. By developing inservice programs that build upon a synthesis rather than a single-conception model, administrators will enable teachers to choose more wisely among the variety of learning style concepts and approaches available.

What is evident from the analysis of these approaches to defining and implementing learning style informed education is that no one approach can exhibit all the attributes necessary to characterize the concept of learning style totally. Each approach has strengths that far outweigh its limitations. Yet to say that any one defines the complex, disjunctive concept of learning style is similar to saying that one has described the concept of "strike" in baseball by listing the attributes of a foul ball.

A judicious approach to learning style informed education would employ a combination of instruments that shed light on learning attributes, conceptual structures, instructional strategies, and culturally-based differences in learning. Evidence would be gathered from students, teachers and parents as well as observers utilizing methodologies derived from educational criticism. Preparation in such evidence-gathering approaches should become an integral part of in-service education programs. As the research efforts in this area become more diverse and refined, and theory and practice interact dynamically to provide mutual guidance to the other, the pioneering work of the theorists discussed here will be evident in the resulting reconceptualization of the learning environment, and in the teacher's enhanced perception of the student as a learner who possesses educationally significant strengths, preferences, and interests.

REFERENCES

1. The reader should also be aware that learning style theorists do talk with each other and also cooperate on various projects; it is not all blind competition.

2. Rita Dunn and Thomas DeBello, with Patricia Brennan, Jeff Krimsky and Peggy Murrain, "Learning Style Researchers Define Differences Differently," *EDUCATIONAL LEADERSHIP*, February 1981, pp. 372-395.

3. The definitions analyzed in the above cited essay were created by Canfield and Lafferty; Dunn, Dunn and Price; Anthony F. Gregorc; Joseph E. Hill; David E. Hunt; David Kolb; Ramirez and Castaneda; and Ronald R. Schmeck.

4. Dunn and DeBello, et al., *op. cit.*, page 374.

5. More information about the Dunn/Price *LEARNING STYLE INVENTORY*, their *LEARNING STYLE MANUAL*, and the Dunn/Price *PRODUCTIVITY ENVIRONMENTAL PREFERENCE SURVEY (PEPS)* and its manual can be obtained by writing Gary E. Price, Price Systems, Box 3271, Lawrence, KS 66044. In addition, a set of articles written by Rita Dunn for *EARLY YEARS* (October 1982, January 1983, February 1983, and March 1983) will serve as a fine introduction to the Dunn/Price conception and approach. Also, numerous other essays by Rita Dunn, Kenneth Dunn, and Gary Price are listed in the *1983 LEARNING STYLE BIBLIOGRAPHY* disseminated by the Center for the Study of Learning and Teaching Styles, School of Education and Human Services, St. John's University, Grand Central and Utopia

Parkways, Jamaica, New York 11439. Finally, in this essay, we shall use the abbreviation Dunn/Price to indicate the work of three authors: Rita Dunn, Kenneth Dunn, and Gary E. Price.

6. The Renzulli/Smith *LEARNING STYLES INVENTORY* (A Measure of Student Preference for Instructional Techniques), The *LEARNING STYLES MANUAL*, and the Renzulli *INTEREST-A-LYZER* are all available from Creative Learning Press, Mansfield Center, Connecticut. The following paper written by Joseph S. Renzulli and Linda H. Smith, and presented at the 1983 AERA Annual Meeting in Montreal, provides a nice introduction to the Renzulli/Smith conception and approach. The paper is titled "The Learning Styles Inventory: From Conceptualization to Instrumentation and Practice."

7. More information about the Ramirez/Castaneda conception and approach can be found in (a) Manual Ramirez III and Alfredo Castaneda, *CULTURAL DEMOCRACY: BICOGNITIVE DEVELOPMENT AND EDUCATION* (New York: Academic Press, 1974), and (b) two monographs written by Barbara Cox, Janet Macaulay, and Manual Ramirez III, the first entitled: *YOUNG CHILDREN LEARNING: A HANDBOOK FOR TEACHERS*, and the second, *HELPING CHILDREN LEARN: A PROGRAM GUIDE*. Both monographs are part of a new bilingual/bicultural, interdisciplinary, primary grades, language arts curriculum published by Pergamon Press, Inc., Elmsford, New York (1982). The curriculum is entitled the *NUEVAS FRONTERAS/NEW FRONTIERS CURRICULUM*.

8. Information about the David Hunt conception and approach to LSIE can be gleaned from a number of articles. These include:

   a) "Learning Styles and Teaching Strategies," *BEHAVIORAL AND SOCIAL SCIENCE TEACHER*, Vol. 2 (#1) 1974, pp. 22-34;

   b) "Conceptual Level Theory and Research as guides to Educational Practice," *INTERCHANGE*, Vol. 8 (#4), 1977-78, pp. 78-90;

   c) "Learning Style and Student Needs: An Introduction to Conceptual Level," in *STUDENT LEARNING STYLES: DIAGNOSING AND PRESCRIBING PROGRAMS* (Reston, VA., National Association of Secondary School Principals, 1979), pp. 27-38;

   d) "How to be Your Own Best Theorist," *THEORY INTO PRACTICE*, Volume 19 (#4), 1980; and

   e) "Teachers' Adaptation: 'Reading' and 'Flexing' to Students," *JOURNAL OF TEACHER EDUCATION*, 1976, 27, pp. 268-275.

   In addition, a limited number of copies of a bibliography on conceptual level are available from: David E. Hunt, Ontario Institute for Studies in Education, 252 Bloor West, Toronto, Ontario, M5S 1V6.

9. More information about the Barbe/Swassing conception and approach can be obtained in Walter W. Barbe and Raymond H. Swassing, *TEACHING THROUGH MODALITY STRENGTHS: CONCEPTS AND PRACTICES* (Columbus, Ohio, Zaner-Bloser, Inc., 1979). A filmstrip/cassette presentation is also available from Zaner/Bloser, 612 N. Park Street, Columbus, Ohio 43215. Finally, the May 1980 and January 1981 issues of *ACADEMIC*

THERAPY contain essays by Barbe and Swassing, and Milone, and Thomas J. Kampwirth which take the form of a debate regarding the validity of the Barbe/Swassing conception and approach. The essays are entitled, "Modality Preference and Teaching Method: A Review of the Research," Kampwirth (1980), and "Teaching to Modality Strengths: Don't Give Up Yet," Barbe, Swassing, Milone (1981), and "Not Just Anther Fish Story: A Response to Barbe, Swassing, and Milone," Kampwirth (1981).

10. The *MURDOCK TEACHER CENTER LEARNING STYLE INSTRUMENT* (created by A. M. Babich, P. Burdine, L. Albright, and P. Randol), and related materials and information is available from the Murdock Teacher Center, 607 North Edgemoor, Wichita, Kansas 67208 (Phone: (316) 682-1565).

11. More information about the *MARIE CARBO READING STYLE INVENTORY* and its manual can be obtained by writing Marie Carbo at: P.O. Box 41, Williston Park, New York 11596. Three other sources of helpful information are: (a) "Reading Styles: Key to Preventing Reading Failure," in *STUDENT LEARNING STYLES AND BRAIN BEHAVIOR* (Reston, VA., National Association of Secondary School Principals, 1982), pp. 126-235, (b) "Reading Style: Diagnosis, Evaluation, Prescription," *ACADEMIC THERAPY*, September 1980, pp. 45-52, and (c) "Research in Reading and Learning Style: Implications for Exceptional Children," *EXCEPTIONAL CHILDREN*, Vol. 49, #6, 1983, pp. 486-493.

12. More information about the *PERRIN LEARNING STYLE INVENTORY*, which is a primary grades version of the Dunn/Price LSI, can be obtained from the Center for the Study of Learning and Teaching Styles, St. John's University, Utopia Parkway, Jamaica, N.Y., 11439. A copy of the experimental instrument is available from the Center, and a chapter by Perrin can be found in *STUDENT LEARNING STYLES AND BRAIN BEHAVIOR* (Reston, VA., National Association of Secondary School Principals, 1982), pp. 119-125.

13. Information about the Fuhrmann/Jacobs conception and approach to LSIE can be obtained by writing: Ronne Jacobs Associates, 401 September Drive, Richmond, VA. 22091.

14. Information about the Grasha/Reichmann conception and approach to LSIE can be obtained by writing to: Anthony F. Grasha, Faculty Resource Center, University of Cincinnati, Ohio 45221. In addition, a chapter, "The Grasha and Reichmann (now Hruska) Student Learning Styles Scales," appears in *STUDENT LEARNING STYLES AND BRAIN BEHAVIOR* (Reston, VA., National Association of Secondary School Principals, 1982), pp. 81-86. Another excellent source of material for this conception is Chapter Five in *A PRACTICAL HANDBOOK FOR COLLEGE TEACHERS* (Boston, Little, Brown, and Co., 1983), a text authored by Barbara S. Fuhrmann and Anthony F. Grasha.

15. More information about Bernice McCarthy's conception and approach to LSIE can be obtained by writing to: Bernice McCarthy, EXCEL, Inc., Arlington Heights, Illinois. Ms. McCarthy has

written a book entitled *THE 4-MAT SYSTEM*, which is available from EXCEL, Inc. Beyond this, a filmstrip/cassette summarizing Bernice McCarthy's approach is available from: LEARNING STYLES--AN ALTERNATIVE FOR ACHIEVEMENT, Madison Local Schools, 1379 Grace Street, Mansfield, Ohio 44905. In addition, an article entitled "4-MAT System: An Interview with Bernice McCarthy," by Susan Morris, in the Winter 1983 issue of the *JOURNAL OF DEVELOPMENTAL AND REMEDIAL EDUCATION*, is quite informative.

16. David Kolb's *LEARNING STYLE INVENTORY* is published by McBer Corp., Boston, MA. His conception, and more is discussed in a chapter, "Learning Styles and Disciplinary Differences," in Arthur W. Chickering's text, *THE MODERN AMERICAN COLLEGE: RESPONDING TO THE NEW REALITIES OF DIVERSE STUDENTS AND A CHANGING SOCIETY* (San Francisco, Jossey-Bass, 1982). The 4-MAT System of Bernice McCarthy delineates a teaching/learning process based on the four types of leaning styles (or learners): the converger; the diverger; the assimilator; and the accommodator.

17. The *GREGORC STYLE DELINEATOR* is available from Anthony F. Gregorc, Doubleday Road, Columbus, Connecticut 06237. Gregorc's instrument is briefly described in the Appendix of *STUDENT LEARNING STYLES AND BRAIN BEHAVIOR* (Reston, VA., National Association of Secondary School Principals, 1982). Gregorc's essay in the volume, "Learning Style/Brain Research: Harbinger of an Emerging Psychology," illuminates some of his current beliefs about LSIE.

18. There were seven other questions utilized in the analysis. These questions and the answers to the entire set of questions are not included inthis essay for reasons of space. They will be published in a separate document at a later point.

19. We describe our placements on the continua as "generally accurate" because with several placements there is room for debate. For example, we place the *RAMIREZ EARLY LEARNING BEHAVIOR CHECKLISTS* in the K-3 category because the curriculum package it appears in is aimed at the K-3 market. Nevertheless, when Castaneda and Ramirez first articulated their conception, it was a conception that applied to adolescents as well as primary grade students.

20. David Hunt, "Learning Styles and Teaching Strategies," *BEHAVIORAL AND SOCIAL SCIENCE TEACHER*, Vol. 2 (#1), 1974, pp. 33.

21. *Ibid*, pp. 22-25.

22. *Ibid*, p. 30.

23. The Dunn/Price learning style characteristics are: sound, light, warmth, formal design, motivated/unmotivated, adult motivated, teacher motivated, persistent, responsible, structure, prefers learning alone, peer oriented learner, learning with adults, prefers learning through several ways, auditory preferences, visual preferences, tactile preferences, kinesthetic preferences, requires intake, functions best in morning/evening, functions best in late morning, functions best in afternoon, needs mobility.

24. This checklist is available in *YOUNG CHILDREN LEARNING: A HANDBOOK FOR TEACHERS* (see Footnote #9 for more information).

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